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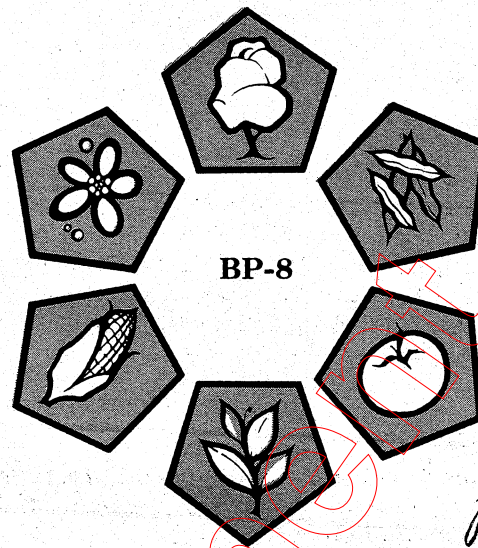
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Plant Disease Control



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Common Scab of Potato

Richard X. Latin, Extension Plant Pathologist

Common scab occurs in most areas where potatoes are grown. It is a major production problem that affects tuber grade quality and has only a small effect on total yield. Tubers covered with scab lesions tend to shrink in storage. Scabs may provide a means of entry for secondary soft rotting bacteria.

Potatoes are the most economically important host plants for this disease. Scab also occurs on fleshy roots of beet, carrot, parsnip, radish, rutabaga, and turnip; however, it is usually of minor importance on these crops.

Scab is caused by a soilborne microorganism called *Streptomyces scabies*. The pathogen is almost always introduced into uninfested soils on infected seed pieces. Once the disease is established in an area, the scab pathogen will survive indefinitely on infested crop residue buried in the soil.

Symptoms

Symptoms include brown irregularly shaped, raised scabs or cork-like blemishes on the tuber surface (Figure 1.) The size of the scab lesions varies. The scabs can be hardly noticeable or can cover almost the entire tuber surface. The same organism also causes pitted scab, a condition in which lesions appear as dark, shallow pits or craters (up to 1/8 inch deep) in the tuber.

Factors Affecting Disease Development

The soil environment is important in determining the extent of scab infection. Dry soil favors scab infection. Maintenance of adequate soil moisture during tuber set and enlargement is critical for scab control. Scab also is more



Figure 1. Symptoms typical of common scab.

likely to be severe in soils with a pH of 5.5 to 7.5 and a high calcium/phosphorus ratio. Continuous cropping potatoes and/or other susceptible host crops generally increases scab severity. Increasing the time between successive susceptible crops can help decrease scab severity to a tolerable level.

Controlling Common Scab

Strategies to control common scab are based upon maintenance of a soil environment that does not favor disease development. Consistent scab control can be achieved through a combination of these recommended practices:

1. Avoid planting seed pieces with scab symptoms.
2. Maintain high moisture levels (near field capacity) during tuber set and enlargement. This critical period usually starts when the plants begin to flower and lasts 6 to 9 weeks thereafter (depending upon variety). Sandy

soils should receive about 2 inches of water each week as rainfall and/or irrigation. Heavier soils should receive 1 to 1½ inches of water weekly.

3. Avoid excessive liming or soil amendments such as barnyard manure or wood ashes. These tend to increase the soil pH. An acid-forming nitrogen fertilizer such as ammonium sulfate can help decrease the soil pH.
4. Use resistant varieties. No commercially available variety completely resists common scab. However, some varieties are affected much less than others and can be expected to produce a marketable crop under scab-favorable conditions. Varieties 'Superior,' 'Norland,' and 'Onaway' are generally less susceptible to common scab. Varieties 'Denali,' 'Michimac,' and 'Kennebec' should not be used in fields with a history of common scab.
5. Rotate out of potatoes for 3 or 4 years.
6. Treat seed pieces with mancozeb.